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China: Coal Development Plan for the 1980s

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An Intelligence Assessment

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China: Coal Development Plan for the 1980s [redacted]

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An Intelligence Assessment

This assessment was prepared by [redacted] Office of East Asian Analysis. Comments and queries are welcome and may be directed to the Chief, China Division, OEA, [redacted]

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China's Coal Development Plan for the 1980s [redacted] 25X1

Key Judgments

Information available as of 1 March 1983 was used in this report.

Beijing has embarked upon an investment program designed to nearly double the country's current annual coal output of 650 million tons by the year 2000. Intermediate goals—700 million tons of output by 1985 and 850 million tons by 1990—are decidedly less ambitious. These goals parallel Beijing's overall economic growth targets and imply a growth rate of about 3 percent in the 1980s, rising to 4 percent in the 1990s. In view of the increased priority of coal in Beijing's investment plans, an active program to attract foreign investment, and new incentives to locally managed mines that produce almost half of China's coal, we believe the 1985 target will be exceeded. The goals for 1990 and 2000, however, are probably overambitious. [redacted] 25X1

Even if these long-range goals are met, China will continue to face an energy shortage that will restrict the economy's ability to grow. Coal and the much less important hydroelectric power are the only primary energy sources slated to increase through the 1980s. China's output of oil and gas may continue to decline. In effect, a 2-percent growth rate in total energy supplies will have to support an economy with planned growth at about 4 percent per year. [redacted] 25X1

China's coal development program is opening considerable opportunities for US engineering firms and equipment manufacturers, especially those willing to invest capital in China. China will export some of the increased output, but we do not expect it to be a major competitor to US coal, except possibly in the Japanese market. [redacted] 25X1

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China's Coal Development Plan for the 1980s [redacted] 25X1

Changed Emphasis

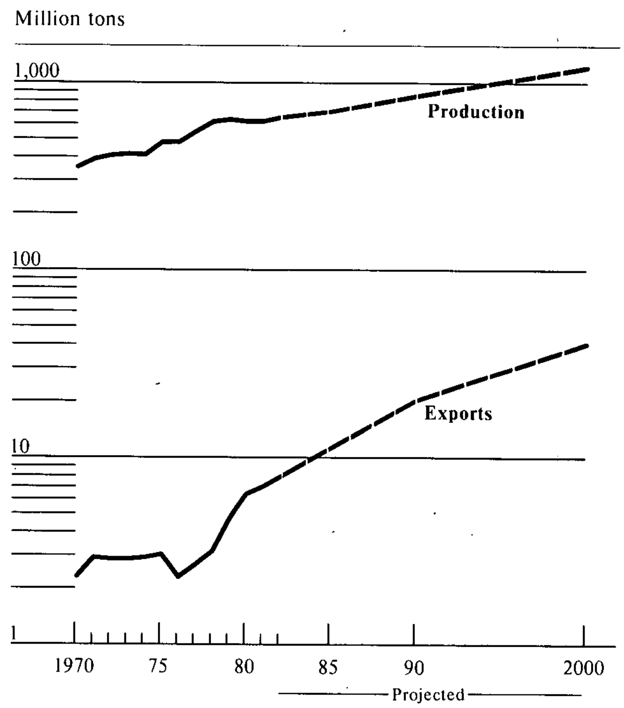
China's coal industry was in the doldrums during 1979-81, hard hit by economic retrenchment policies initiated in 1979. After rapid growth in the second half of the 1970s, output peaked in 1979 at 635 million tons, then declined to about 620 million tons in 1980 and 1981 as economic emphasis shifted to light industry. The industry was also damaged by new government policies that encouraged investment in profitmaking industries at the expense of industries, like coal, that operate at a loss due to low prices arbitrarily set by the state. State investment in the industry thus dropped sharply in 1981 [redacted] 25X1

Retrenchment, however, now appears over for the coal industry, and, except for the sensitive price issue, Beijing appears to be executing a well-coordinated plan that will permit increased productivity. Output surged 5 percent in 1982 to a record 650 million tons, and the Sixth Five-Year Plan (1981-85) goal of 700 million tons in 1985 appears well within reach. [redacted] 25X1

The investment allocations outlined in the Sixth Plan, belatedly released last December, indicate that growth rates may accelerate in coming years. Coal is to receive 17.9 billion yuan (approximately $10 billion) in the current five-year period—32 percent more than was invested in the preceding period—despite the fact that overall industrial investment will not increase. Coal's share of capital construction will thus rise from 6.1 percent to 7.8 percent. This investment total includes foreign exchange funds that will be borrowed for coal mine development, but probably does not include equity foreign investment that may add another billion yuan by 1985. [redacted]

The Sixth Five-Year Plan allocates more than 200 yuan per ton of new capacity, far higher than previous cost-per-unit allocations. Figures recently released by China's Statistical Bureau indicate that in the 1970s the Ministry of Coal spent approximately 100 yuan for each ton of new output capacity. Capital costs, however, will be higher because more emphasis is being placed on mechanization of mines and improved coal-washing systems. Only 15 percent of China's mines are fully mechanized, and only 34 percent of China's coal is now washed. The Japanese estimate, for example, that it will cost them about $75 or 145 yuan for each ton of coal capacity that they develop in China (see table 2). [redacted] 25X1 25X1

Coal Production and Exports



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If this investment program is implemented and present priorities are maintained through the second half of the 1980s, we believe Beijing could exceed its 1985

Table 1
China's Coal in World Perspective

Millon tons

	1981	2000 Targets [a]
Production		
1. United States	744	1,300
2. USSR	704	1,100-1,700
3. China	620	1,200-1,300
4. East Germany	266 [b]	
5. Poland	199	
World	3,760	
Exports		
1. United States	102	
2. Australia	51	
3. South Africa	30	
4. USSR	22	
5. West Germany	17	
9. China	7	

[a] Targets are unofficial and likely to be optimistic. US target is by National Coal Association.
[b] East Germany only produces brown coal.

[redacted]

target for coal output of 700 million tons and might reach its 1990 target of about 850 million tons. [redacted] Beijing hopes to exceed the planned targets and reach about 740 million tons by 1985 and 940 million tons by 1990. [redacted]

The Development Program

Recent reporting by US officials in Beijing and Hong Kong has shed considerable light on the strategy underlying the coal development program, which is designed to:

- Encourage small mine development to meet local and short-term coal requirements.
- Significantly expand and develop new state-controlled underground mines—especially in Shanxi, Shandong, Anhui, and Guizhou Provinces—utilizing domestic, Japanese, and European financing.
- Open up five very large open-pit mining areas utilizing considerable amounts of US and European investment. [redacted]

Small Mines—New Incentives

China's small, locally administered coal mines produce approximately 300 million tons a year, a little less than half the nation's output. Central government policy toward these mines has fluctuated over the years. As recently as 1979 Beijing criticized small mines for their relatively high cost and poor-quality output and their inefficient mining techniques, which fail to recover much of the extractable coal. In times of real need, however, Beijing has always depended on local mines to maintain production volume. We suspect that this was the case in 1982 and that much of the large boost in output came from small mines in direct response to surging demand by local industrial consumers. [redacted] 25X1

Beijing is now relying heavily on economic incentives to promote small-mine development. In July 1982 the State Council cut taxes on the coal produced by small mines and urged provincial and local authorities to raise the price of coal produced from these mines. Moreover, in contrast to pressure a few years ago to reduce investments, Coal Minister Gao Yangwen recently encouraged the provinces to invest more capital in small-mine development, particularly the six southern provinces of Zhejiang, Fujian, Hubei, Hunan, Guangdong, and Jiangxi, which have previously had to obtain coal from the northern provinces. [redacted]

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Plans disclosed by Zhang Changsong indicate that small mines are expected to increase output steadily through the end of the century, although at a slower rate than large, modernized mines. Output from existing small mines is targeted to increase by 80 million tons to reach 380 million tons by the year 2000, and new local mines are expected to be producing 120 million tons a year by that date. [redacted]

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Large Mines—Dependent on Foreign Investment

China's existing state-owned mines, which produced over 300 million tons last year, are targeted to raise capacity to about 400 million tons by the year 2000. This will not be easy, because many of the mines have been in production for decades and their reserves have been depleted. This is particularly true of mines in key

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Table 2
Japan Ex-Im Bank–Funded Coal Mines

Coal Mine	Coal Production *(1,000 tons per year)*	Total Investment *(million US $)*	Per Ton Investment *(million US $)*	Ex-Im Bank Funding *(million US $)* FY 1980	FY 1981
Baodian	3,000	195	65	40	35
Jiangzhuang	1,500	120	80	15	15
Xidian	3,000	225	75	45	40
Qianjiaying	4,000	320	80	41	60
Malan	4,000	300	75	24	20
Zhenchengdi	1,500	112	75	15	10
Sitaigou	4,000	300	75	20	20
Total	**21,000**	**1,572**	**75**	**200**	**200**

Source: *China Newsletter* (JETRO) #36, January-February 1982.

[redacted] 25X1

eastern industrial areas such as Liaoning, Hebei, Shandong, and Jiangsu where output is already declining. The Ministry of Coal will consequently have to emphasize expansion of mines in the coal-rich areas of Shanxi and Inner Mongolia despite transportation problems associated with getting the coal to eastern and southern consumers. [redacted]

Even if the existing mines meet their plan targets, the bulk of China's increased output in the 1990s must come from new mines that are now being planned. For the first time since the Japanese originally developed many of China's eastern coalfields in the 1920s, China is counting on foreign investment to play a major role. Of the 400-500 million tons of new capacity that will be available for the year 2000, 100-200 million tons are slated to be developed with the help of Japanese, US, and European firms. Some of these deals are still under negotiation, whereas others are under way. [redacted]

Japanese investors, with substantial help from their government, are already actively at work in China's eastern coal mines. Japan's Ex-Im Bank has agreed to finance approximately $1.6 billion for development of seven coal mine projects—the loans to be repaid with coal exported to Japan—and Japan's economic aid organization is helping fund construction and upgrading of railroad lines and ports to facilitate these exports. [redacted] the 25X1 Ex-Im Bank recently turned down a Chinese request for substantial new credits for the mines because of concern that China might be counting too heavily on 25X1 the Japanese coal market. The mines included in the Japanese agreement are listed in table 2. Several are already well into the construction phase, and production from these mines may commence by 1987. Output from these mines, much of which is designated for export to Japan, is expected to reach 21 million tons by 2000. [redacted] 25X1

The Chinese are also negotiating with European firms to develop a major coal area at Liupanshui in southern China. At one point this had been dropped from the development plan, probably because of its cost. This project is not being handled by the Ministry of Coal, but by a new regional corporation—the Southwest China Energy Resources United Development Corporation—chartered to help gain Western investment in the energy resources of China's southern provinces. [redacted] 25X1

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China: Foreign Investment in the Coal Industry

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Shaul Eisenberg, a Tel Aviv–based entrepreneur, has proposed a plan involving over 120 Western companies funding development of 29 mines near Liupanshui and rail and port systems as well. Some $3 billion in foreign investment and the equivalent amount in Chinese funds would be involved in this joint venture, which would enable annual output to rise from the current 6.2 million tons to 10 million tons by 1985 and close to 35 million tons by the late 1990s. The joint venture would allow export of about 10 million tons annually to Europe for 10 years to pay the foreign exchange costs of the project. In our view the plan is overambitious and will have to be reduced in scale, but Eisenberg is making good progress, and some kind of joint venture is likely. [redacted]

At least equally important is China's relatively new focus on large-scale open-pit mines, which currently produce only 5 percent of the country's coal. Nearly half—200 million tons—of China's new capacity by the year 2000 is slated to come from such mines. Table 3 lists these projects, as described by the Ministry of Coal. Of particular significance is the extensive role that the US firms are expected to play in the development of the open-pit mines. Given the Chinese demands for capital investment and the deteriorating financial condition of many US energy companies, however, these expectations may be optimistic. [redacted]

Table 3
Open-Pit Mine Projects

Million metric tons

Mine	Location	Capacity		Foreign Participant
		1990	2000	
Pingsuo	Shanxi	15	45	Occidental negotiating for one of three pits
Junggar	Inner Mongolia	30	60	Bechtel doing feasibility study
Yinminhe	Inner Mongolia	20	45	Fluor discussing project
Huolinhe	Inner Mongolia	20	45	West German design
Yuanbaoshan	Inner Mongolia		8	

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One of the largest and most visible projects to date is the Pingshuo mine in Shanxi Province, which is expected to yield 15 million tons annually as early as 1986 and reach 45 million tons from three large pits by the year 2000. This could make Pingshuo one of the world's largest coal mines. The Ministry of Coal's China National Coal Development Corporation signed an agreement with a subsidiary of Occidental Petroleum—Island Creek Coal—to perform a feasibility study for the initial phase of development that could cost $300-500 million. Of this, up to $200 million will be spent for imported equipment. The study will be completed shortly and a joint-venture contract signed later this year. [redacted]

Significant issues remain unresolved, however, and the Coal Minister recently said Beijing would proceed without Occidental if an agreement cannot be reached. The Chinese have not yet worked out an acceptable system of taxation for the foreign partner, nor is it clear what financial commitment Occidental will have to make. [redacted] 25X1

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The two sides plan to split profits evenly until Occidental recoups its investment. Afterwards, China will get 60 percent of the profits. Occidental is attempting to develop a guaranteed market for its share of the coal output. Japanese businessmen have noted with distress that Pingshuo may be in operation before the seven underground mines now being developed with Japanese assistance, and that the Japanese market may not be able to absorb coal from both. [redacted] 25X1

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A second US company, Consolidated Coal, also expressed interest in Pingshuo's initial phase but lost out to Occidental. The Ministry of Coal continues to be unsuccessful in interesting Consolidated in another pit [redacted] 25X1

Three other large open-pit mining projects, all in Inner Mongolia, are targeted to come on line by 1990, and a fourth some time in the 1990s. US firms are participating in the planning phases of two of them, 25X1

Junggar and Yinminhe, and a West German firm may help in a third. Total output from these mines, including Pingshuo, is to reach 85 million tons by 1990 and an ambitious 203 million tons by 2000. The Chinese have indicated substantial interest in the large-sized trucks and earthmoving equipment required for such projects [redacted] the Ministry of Coal has been allocated $1 billion in foreign exchange to start importing this equipment. [redacted]

One of the biggest difficulties in developing these mammoth coal areas is the construction of transportation systems to carry the coal to the consumers. The rail systems in Shanxi, Inner Mongolia, and Hebei cannot even handle the 140 million tons currently being produced in the area. Beijing is addressing the problem by electrifying and double tracking these lines, by placing major new thermal power plants near mine mouths, and by transmitting electricity through long-distance powerlines. [redacted]

The Chinese also have expressed considerable interest in US coal slurry pipeline technology and have asked Bechtel to do a feasibility study for a 700-km, 30-million-ton annual capacity coal pipeline from the Junggar mine to Qinhuangdao port. This line was included in the Sixth Five-Year Plan, and funds presumably have been designated for its construction. Two other slurry pipelines—one from Changzhi in southwest Shanxi Province to Jinan in Shandong Province and the other from western Henan Province to Wuhan on the Changjiang—have been suggested. Slurry pipeline technology is not new, but no large commercial pipelines have yet been built elsewhere in the world, although a number are planned in the United States. [redacted]

Exports—Needed To Repay Foreign Investment

Although China ranks third in the world in production and reserves of coal, it remains only a minor exporter, having shipped about 7 million tons in 1981 valued at $370 million. Net exports amounted to only 5 million tons because of anthracite imports from North Korea. [redacted]

It is clear, however, that China intends to become an important coal exporter. Indeed, if the joint-venture projects with Western and Japanese companies pan out, foreign investors will be repaid through substantial exports. Zhang Huiwen, deputy general manager of the new China National Coal Import and Export Corporation set up to stimulate exports, stated last August that China would triple exports to about 20 million tons by 1985. Others, including the Minister of Coal, have suggested exports of 40 million tons by the year 2000. We believe the 20-million-ton target is too high for 1985, but that it could easily be reached by 1990; 30 or 40 million tons by 2000 is certainly possible. This compares with 1981 US coal exports of 102 million tons and Australian exports of 51 million tons. [redacted]

Construction of rail and port facilities are the main bottlenecks to export, but short-term export market considerations and the probable long-term domestic supply shortage will impede exports. Pressures from both sides caused China and Japan to reduce their target of sending 10 million tons of Chinese coal to Japan by 1985. Even the more modest goal of 7 to 8 million tons, however, is still double the 1982 shipments. Japan is concerned with the dependability and quality of Chinese coal, and, ironically, many Japanese industrial consumers complain that they will be unable to handle the larger ships that will be loaded at the new Japanese-financed port facilities in Qinhuangdao. [redacted]

In the long run, however, China probably will have little trouble developing markets for its coal. A 1982 Brookings Institution study forecasts Japan—the world's largest coal importer—to increase its coal purchases from 73 million tons in 1980 to 123 million tons by 1990. At best, China will supply only about 20 percent of that increase. Moreover, Hong Kong, Taiwan, South Korea, the Philippines, and Thailand all plan to increase coal imports, and China is a

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nearby supplier. Hong Kong's two electric power companies expect to import 3.5 million tons per year by 1985, for example, and 10-12 million tons by 1990; moreover, South Korea has been illicitly importing up to 1 million tons a year from China. If Chinese restrictions were removed, South Korea could become a major market for Chinese coal. China is also making some inroads into Indian and Bangladesh markets. China's own demand for coal will be increasing rapidly as well, however, and we judge that China will be unable to compete strongly against Australian and US companies, except perhaps in the East Asian region. 25X1

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